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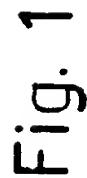
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2/16



Fig. 2

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3/16

The number N_{ϵ} of boxes of size $1/n$ needed to cover the fractal
(photo 005239) LB +91) . The fractal dimension $D=1.82$

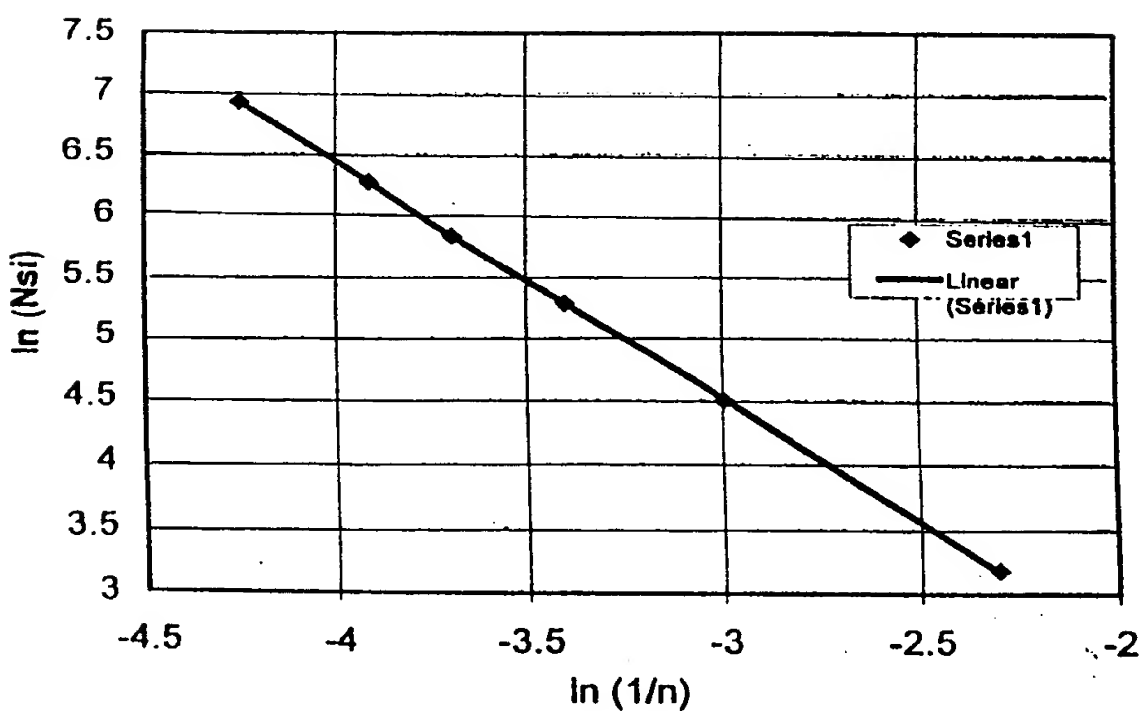


Fig. 3

4/16

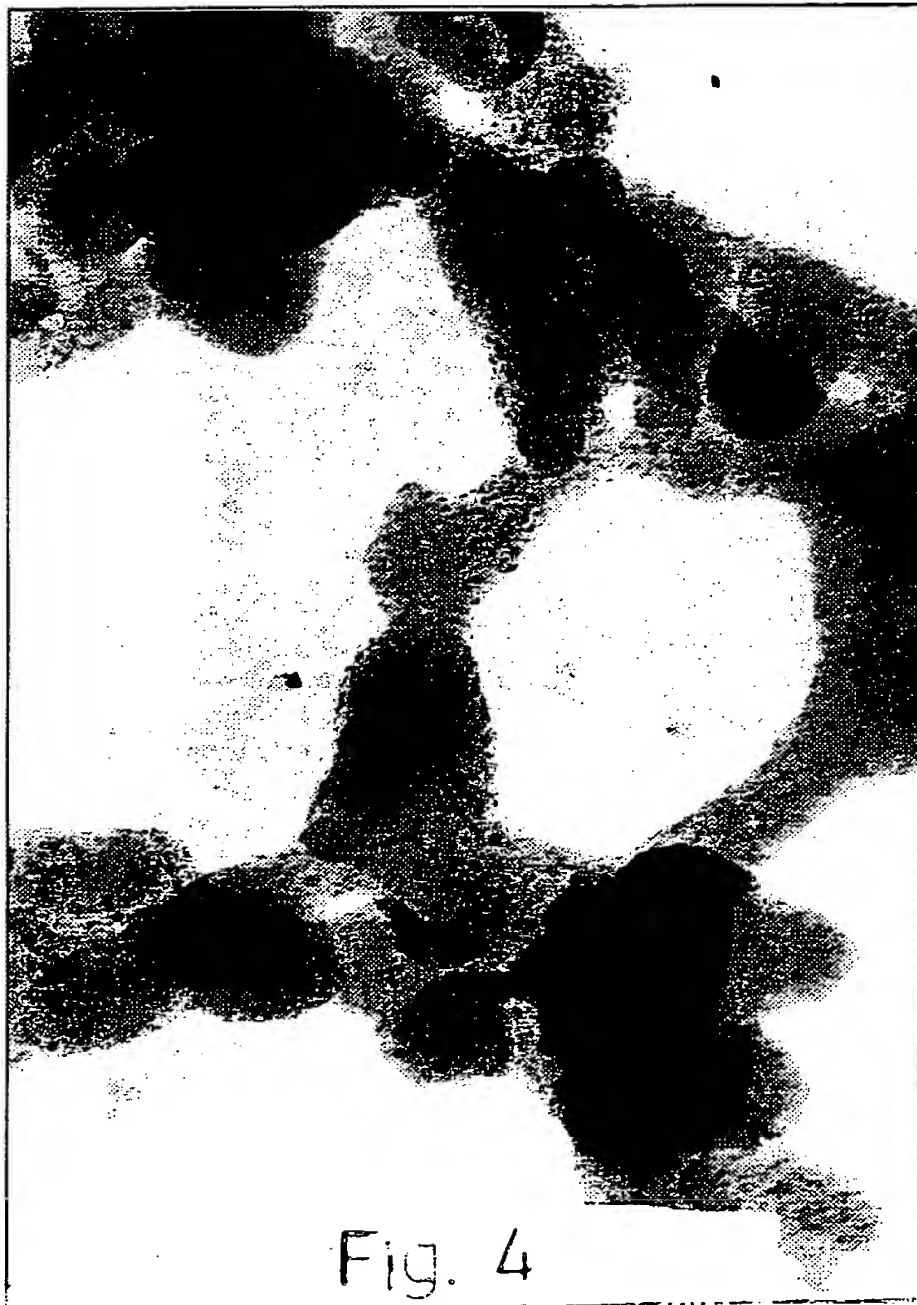


Fig. 4

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5/16

Heterogeneous structures

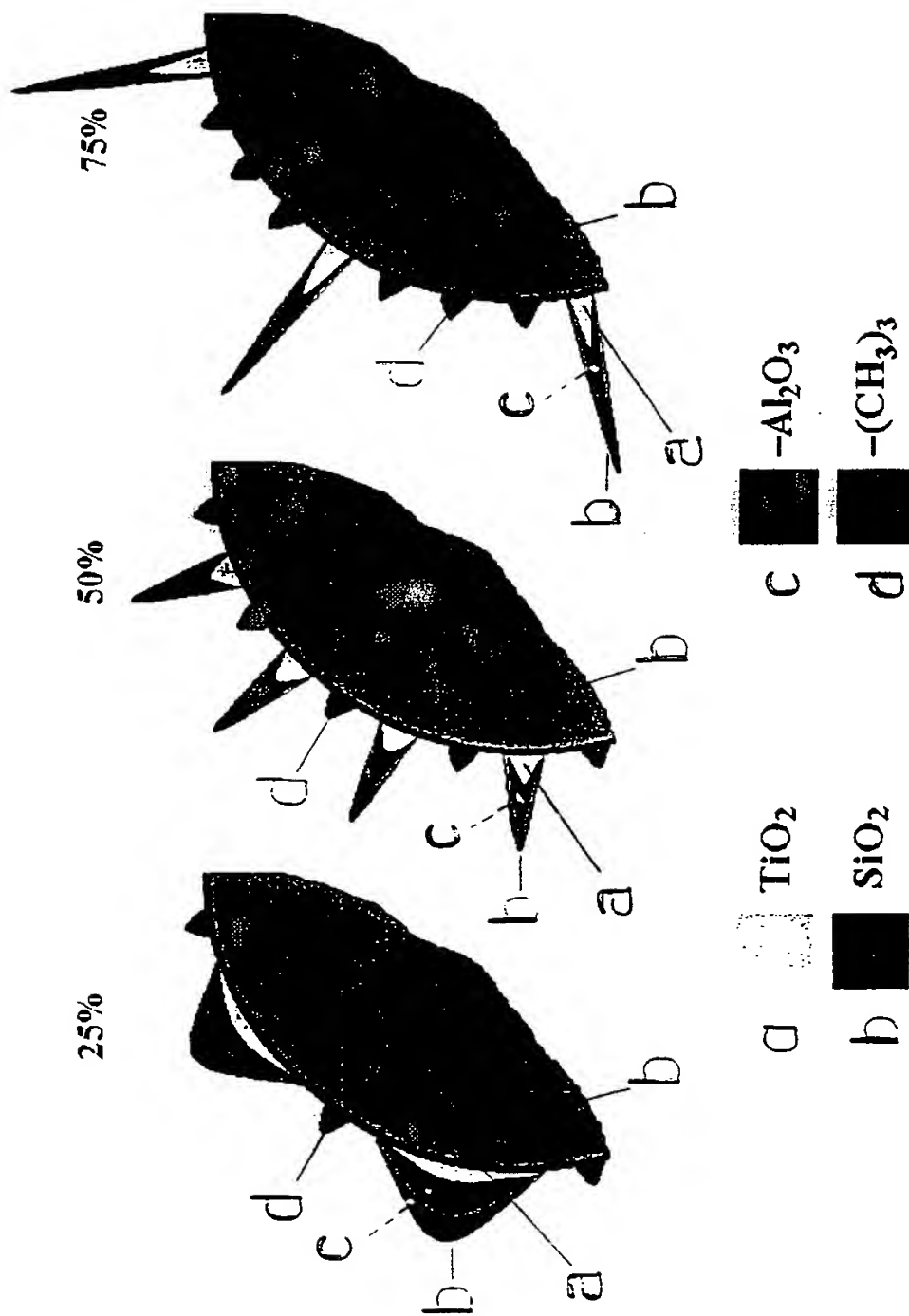


Fig. 5

6/16

N	Substance	Mechanism	Application
1	X 1	Y 1 - Y 5	Z 1 - Z 5
2	X 2	Y 1 - Y 20	Z 1 - Z 7
3	X 3 X 3'	Y 1 - Y 23 Y 24	Z 1 - Z 7
4	X 4	Y 1 - Y 23; Y 25;	Z 1 - Z 7
5	X 5	Y 27	Z - Z 3
6	X 6	Y 1 - Y 23; Y 25; Y 26	Z 1 - Z 7
7	X 7	Y 28	Z 8
8	X 8	Y 1 - Y 20	Z 1 - Z 3

Fig. 6

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09/700496-02201

7/16

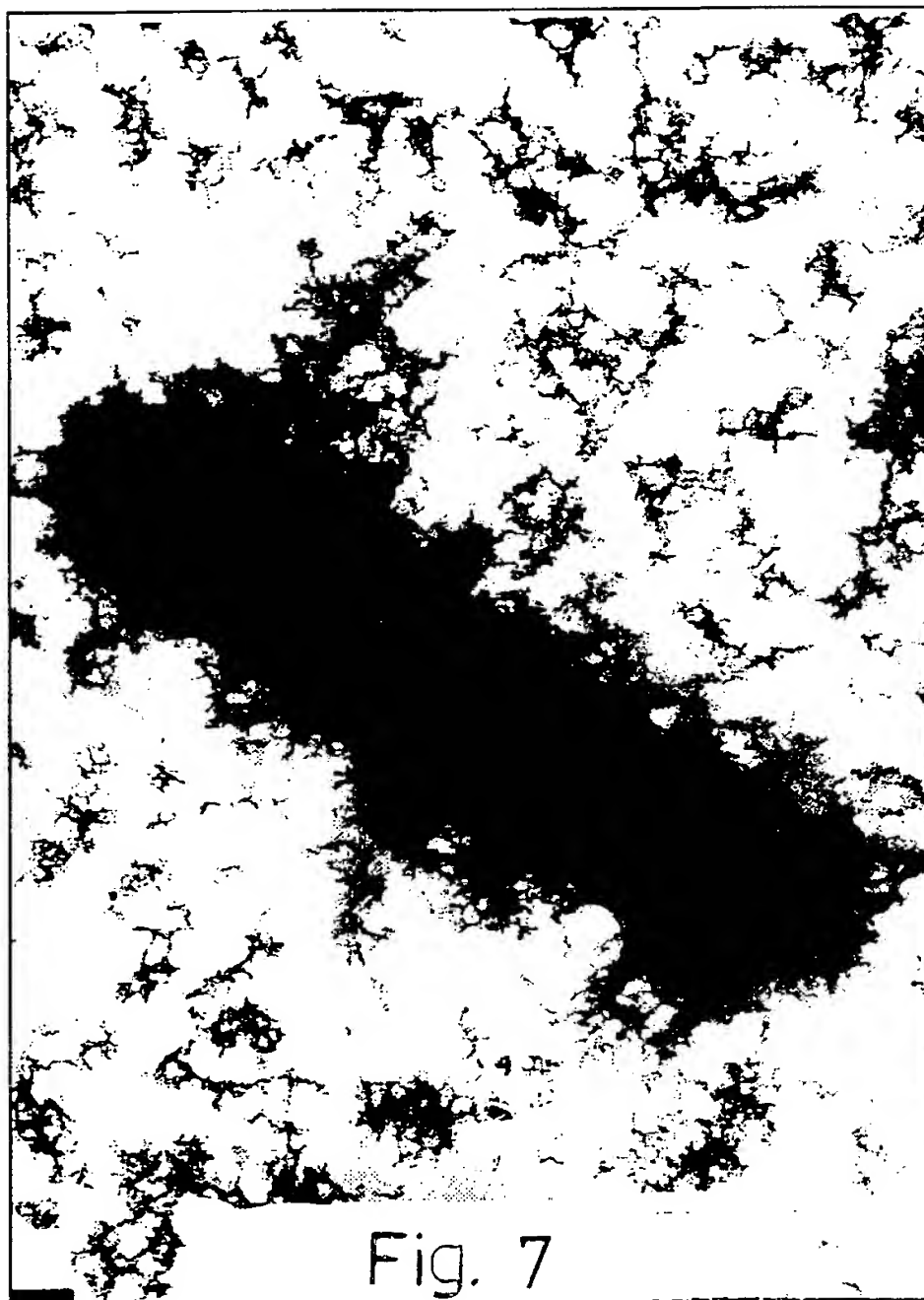


Fig. 7

09/700496

8/16

Results from microbiological experiments:

- Type of Bacteria: Paenibacillus A-50
- Particles : SiO₂, Modified SiO₂, Modified SiO₂ + TiO₂, Al₂O₃
- Measured index : Growth on agar plates in presence of particles

Particle Type	Treatment	concentration				
		1%	0.5%	0.25%	0.2%	0.1%
<u>Control</u> (No Particles)	-	Full Growth	Full Growth	Full Growth	Full Growth	Full Growth
	<u>SiO₂</u>	Full Growth	Full Growth	Full Growth	-	-
	Inside agar	Full Growth	Full Growth	Full Growth	-	-
	Inside and on top of agar	0	0	0	-	-
<u>Modified SiO₂ and Modified SiO₂ + TiO₂</u>	Inside agar	-	-	-	0	0
	On top of agar	-	-	-	0	0
	Inside and on top of agar	-	-	-	0	0
	<u>Al₂O₃</u>	-	-	-	0	0
(X1)	Inside agar			Full Growth	-	Full Growth
	Inside and on top of agar			0	-	0

Fig.8

9/16

HISTOGRAM OF COLONY AREAS

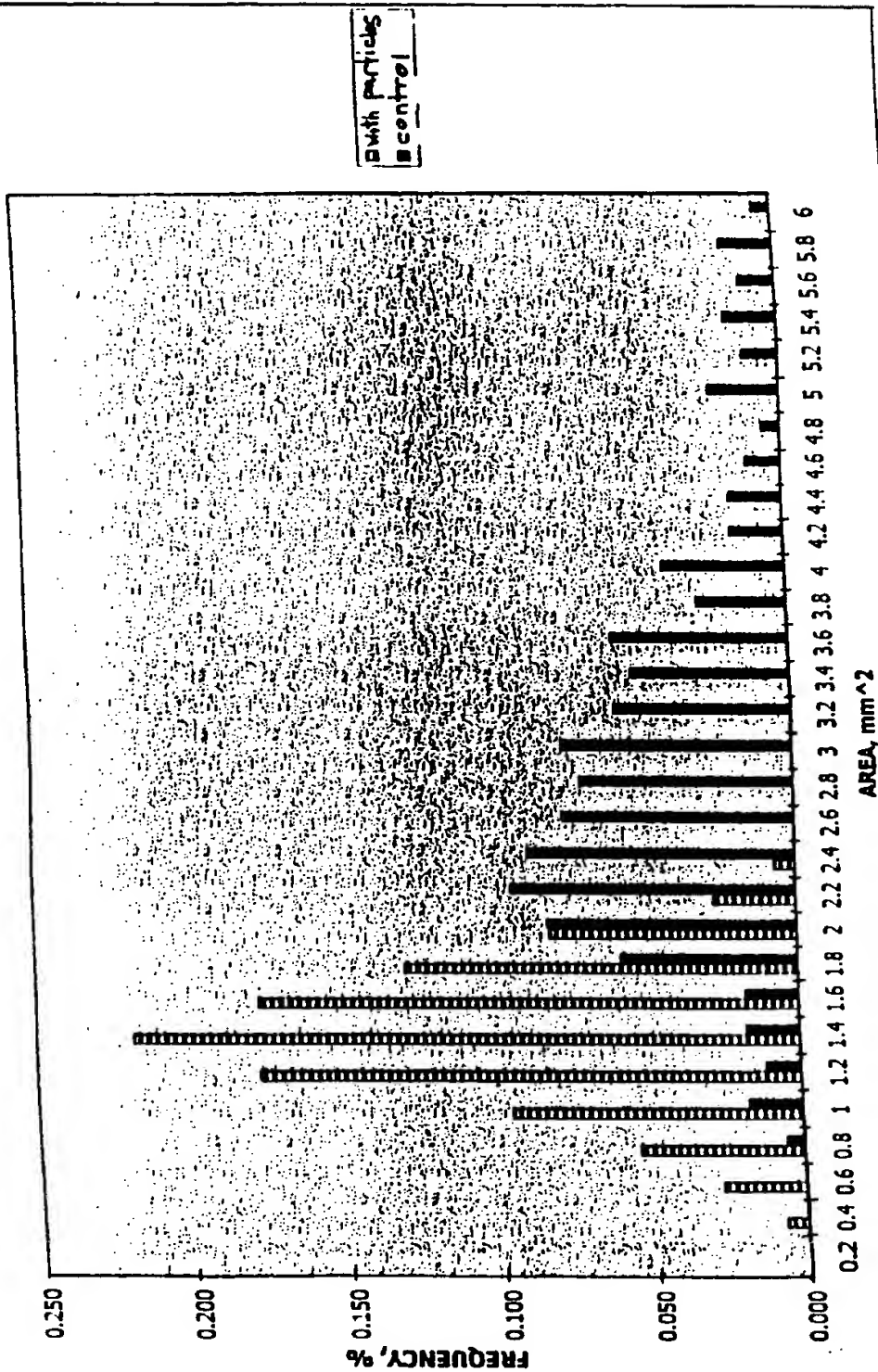


Fig. 9

10/16

Influence of particles on the Level of Chlorides in Rats Serum Blood.

a

Dose	Chloride Level (mmol/l) over time(days) after exposure				
	10	20	30	60	90
Control	78.1±4.91	91.3±7.68	94.8±8.43	91.3±2.75	98.8±2.75
100mg/kg	86.5±2.14	92.6±4.55	99.6±5.24	94.0±5.96	105.0±4.38
330mg/kg	88.0±3.41	94.0±4.68	94.1±5.84	97.7±4.17	105.0±3.93
1000mg/kg	90.0±0.64	110.4±2.42	122.4±6.20	102.4±4.08	109.2±5.14

Influence of particles on the Level of β -lipoprotein in Rats Serum Blood.

b

Dose	β -lipoprotein Level (g/l) over time(days) after exposure.				
	10	20	30	60	90
Control	0.58 ± 0.043	0.58 ± 0.073	0.52 ± 0.043	0.63 ± 0.074	0.60 ± 0.084
100mg/kg	0.55 ± 0.097	0.41 ± 0.090	0.42 ± 0.097	0.64 ± 0.150	0.47 ± 0.043
330mg/kg	0.46 ± 0.103	0.43 ± 0.062	0.39 ± 0.118	0.38 ± 0.107	0.43 ± 0.104
1000mg/kg	0.39 ± 0.043	0.28 ± 0.071	0.32 ± 0.064	0.35 ± 0.054	0.46 ± 0.084

Fig. 10

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ALTERATION OF SENSITIVITY TO ANTIBIOTICS WITH PARTICLE TREATMENT

11/16

	PENICILLIN	AMPICIL- LIN	STREPTO- MYCINE	GENTAMY- CINE	TETRACY- CLINE	LEVOMY- CINE	ERYTHRO- MYCINE	KANAMICINE
CONTROL	20	60	60	80	40	40	40	80
WITH PARTICLE TREATMENT	33	67	100	100	67	67	100	100

Fig.11

TREATMENT OF PURULENT INFLAMMATORY DISEASES

12/16

GROUP	NUMBER OF PATIENTS	HOSPITALIZED. %	AMBULATORY THERAPY PROLONGATION. %	AVERAGE TIME OF IN HOSPITAL THERAPY. (DAYS)	Need in THERAPY for ANTIBIOTICS. %
CONVENTIONAL THERAPY + PARTIAL	50	62.0	64.4	11.2 ± 0.5	33.0
CONTROL GROUP CONVENTIONAL THERAPY	39	61.5	5.0	15.2 ± 0.7	92.3

Fig. 12

13/16

Infection**REGRESS IN CLINICAL MANIFESTATIONS AND
NORMALIZATION OF LABORATORY INDEX ON FIFTH DAY OF
INVESTIGATION.****% of patients with regress in symptoms**

Sickness	Particle Treatment		Standard treatment	
	HEPATITIS A %	GASTROENTERITIS %	HEPATITIS A %	GASTROENTERITIS %
1. FEVER	89.0	95.0	73.0	75.0
2. SICKNESS. VOMITING	98.0	99.0	62.0	67.0
3. WEAKNESS	90.0	97.0	89.0	78.0
4. DIARRHEA	—	100.0	—	81.0
5 FLATULENCE	—	100.0	—	53.0
6. ACTIVE ALANINAMINO- TRANSFERASE	51.0	—	29.0	—
7-CITOGRAME OF FAECES	—	100.0	—	53.0
8-HYPERBILLI- RUBINEMIA	69.0	—	52.0	—
9-RECURRING CULTUR OF MICROBES	—	8.0	—	11.0
10- SKIN ITCHING	95.0	—	30.0	—

Fig. 13

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Surgery

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14 / 16

PARTICLE TREATMENT IMPACT ON THE WOUND MICROFLORE SENSITIVITY TO ANTIBIOTICS

SENSITIVITY %	PENICILLIN	AMPICIL- LIN	STREPTO- MYCINE	GENTAMY- CINE	TETRACY- CLINE	LEVOMY- CITINE	ERYTHRO- MYCINE	KANAMICINE
Standard wound treatment	20	60	60	80	40	40	40	80
Particle Wound Treatment	33	67	100	100	67	67	100	100

Fig. 14

Dentology

15/16

Clinical-Laboratory Index Dynamics for Patients with
Periodontitis.
Treatment by Medical Substances on the
particle. surface.

№ group		Resistance of capillary's (sec.)		Saliva Haemoglobin, units		Monogramme, units					
						Promonocyte's		Monocyte's		Polymorpho nuclear's	
		Mild Level	Middle Level	Mild Level	Middle Level	Mild Level	Middle Level	Mild Level	Mild Level	Mild Level	Middle Level
1 antibiotic	Before treat	30.85	9.33	0.014	0.13	16.33	14.7	26.3	28.16	57.46	57.7
	After treat	38.94	21.83	0.0000 58	0.04	22.29	21.03	28.59	43.11	51.29	36.8
2 antibiotic + Urea	Before treat	14.3	11.21	0.049	0.13	15.36	10.9	25.91	28.5	58.73	56.6
	After treat	24.3	23.18	0.007	0.09	19.55	27.00	28.2	28.5	52.3	44.5
3 Furacilline	Before treat	9.24	9.24	0.031	0.12	16.29	10.53	25.35	20.0	59.46	60.4
	After treat	20.11	20.11	0.003	0.06	20.23	17.21	29.11	29.8	51.11	53.0
4 Arnous calamus	Before treat	11.5	11.35	0.023	0.20	13.0	45.83	28.0	20.84	59.0	64.3
	After treat	19.8	22.91	0.007	0.13	19.0	21.06	29.11	26.37	51.89	57.5

Fig.15

16/16

Ailment

Scars and keloids
Pruritis Senilis
Cuprosis
Acne vulgaris
Scratches and fissures
Alopecia

Treatment

CaF₂
Mg
BaCO₃
CaS, SiO₂
AgNO₃
Zn

Fig. 16

THE UNIVERSITY OF CHICAGO